

12.0 WHITE ROCK Y TRACT



12.1 Affected Environment

12.1.1 Land Use

The White Rock Y Tract consists of approximately 540 acres (218 hectares) and incorporates the alignments and intersections of State Road 502, State Road 4, and the easternmost portion of East Jemez Road. State Road 502 bounds the tract to the north, across from the Technical Area (TA) 74 Tract. The White Rock Y Tract shares its southern boundary with Pueblo of San Ildefonso lands, just south of East Jemez Road. State Road 4 and Bandelier National Monument (BNM) lie to the east, and TA 72 lies to the west (see Figure 12.1.1-1, White Rock Y Tract Layout). The tract can be accessed by any of these three roadways.

The tract is moderately forested with ponderosa pine and pinyon-juniper woodlands. Numerous archaeological sites and one possible historic structure are present at the site. Portions of the tract also are adjacent to wetlands and sensitive wildlife habitat. The Los Alamos Canyon Trail is the single well-established trail, crossing the northwest edge of the site.

Current land use at the tract is limited to the wells, power lines, and transportation facilities constructed previously in support of LANL operations (DOE 1998b). In addition, a portion of the tract is used for recreational rock climbing. Adjacent land uses to the north and south include activities associated with the use and maintenance of State Road 502 and East Jemez Road. To the west, activities are based on LANL operations at TA 72, which serves as a training area and firing range for LANL's security force. Directly to the east across State Road 4, land use is dominated by the tourism and National Park Service activities at BNM.

Figure 12.1.1-2 shows the environmental media monitoring stations located on the subject land tract.

12.1.1.1 Environmental Restoration

The White Rock Y Tract has no potential release sites (PRSs). It contains six structures, all of which are part of the County water supply system. The structures include a water tank, a booster pump station, a water well, a chlorinator station, a sand trap, and a fluorine

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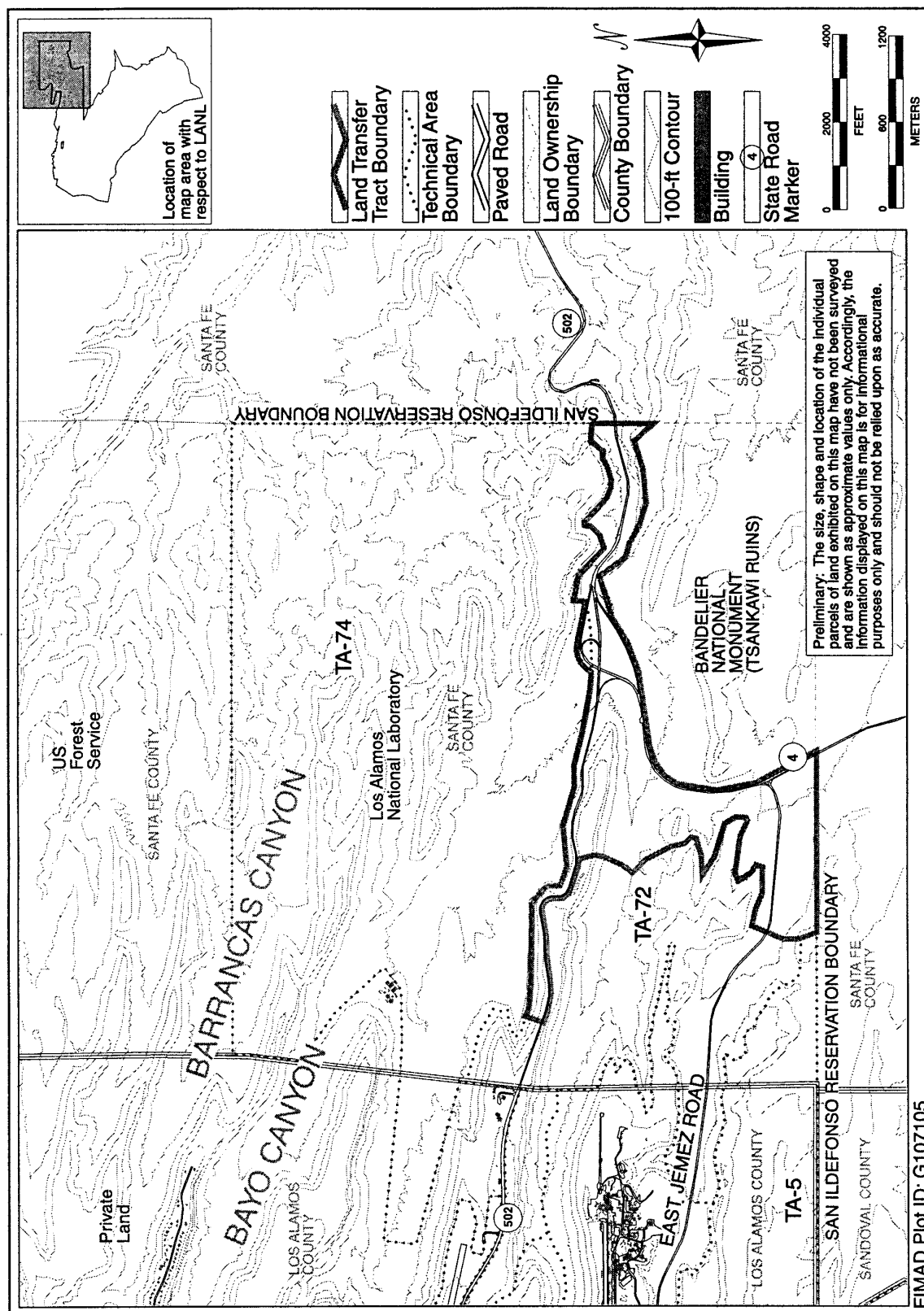


Figure 12.1.1-1. White Rock Y Tract Layout.

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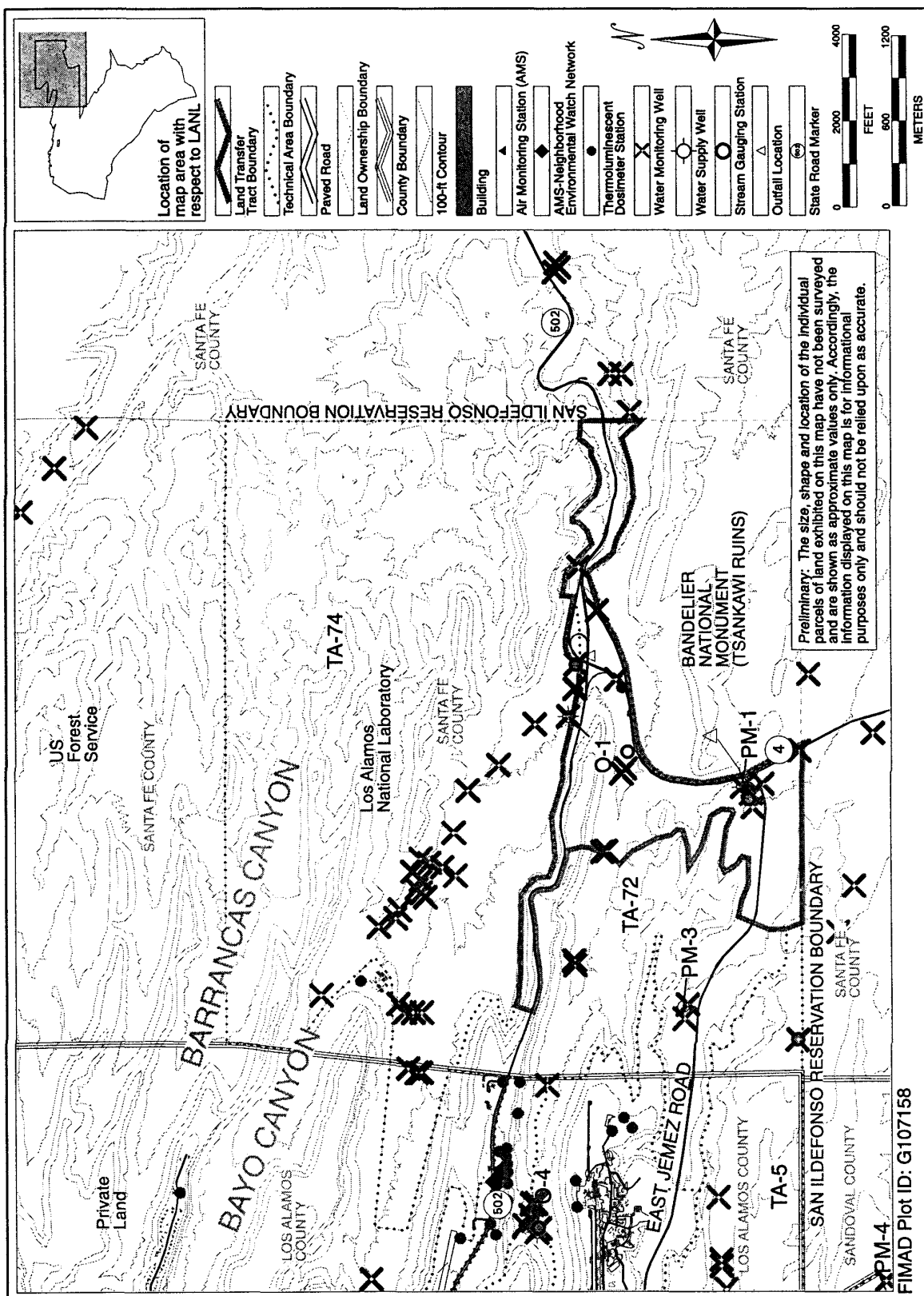


Figure 12.1.1-2. White Rock Y Tract Monitoring Stations and Outfall Locations.

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station. In addition, the tract is traversed by Los Alamos and Sandia Canyons, both of which may contain residual contamination from past LANL operations. Characterization performed to date indicates the presence of several radioactive isotopes in stream channel sediments. Although additional sampling may be performed, sampling conducted to date indicates that existing levels of contamination in the canyon systems are lower than levels that would elicit health concerns.

Figure 12.1.1.1-1 shows areas with the potential contamination issues (PCIs) within this tract, as well as areas with no known contamination. Only the southernmost part of the tract, near to and south of East Jemez Road, appears to have no known contamination issues, although much of the tract has not yet been characterized. PCI acreage is estimated to total 306 acres (124 hectares), more than half of the tract.

12.1.2 Transportation

The White Rock Y Tract incorporates the alignments and intersections of State Road 502, State Road 4, and the easternmost part of East Jemez Road. The site includes the State-owned, grade-separated interchange at State Road 5 and State Road 502. Table 12.1.2-1 shows the geometry, capacity, 1996 traffic volumes, and 1996 and 2018 level of service (LOS) for these three roadways. The annual traffic growth rate used at this location was 2.29 percent according to

the New Mexico State Highway and Transportation Department (NMSH&TD), Transportation Planning Division (NMSH&TD 1997).

As shown in Table 12.1.2-1, the LOS for both State Road 4 and East Jemez Road is expected to degrade from LOS E (maximum capacity) to LOS F (traffic jam conditions) by the year 2018. Although State Road 502 operates at LOS B near the White Rock Y under current conditions, it is likely to be at or over capacity in the two-lane section that climbs the mesa.

12.1.3 Infrastructure

Figure 12.1.3-1 shows the location of roads, fence lines, and utility lines on the White Rock Y Tract. This tract is largely undeveloped. State Road 502 and State Road 4 and East Jemez Road traverse the tract. An interchange between State Road 502 and State Road 4 is present. Electricity, gas, and water lines and several water wells are located on the site.

12.1.4 Noise

The White Rock Y Tract straddles State Road 502 along its northern boundary and State Road 4 along its eastern boundary. The only source of ambient noise for this tract is vehicular traffic. Traffic can be quite heavy during early morning and late afternoon.

Table 12.1.2-1. Traffic Volume Estimates

LOCATION	NUMBER OF LANES	CURRENT CAPACITY (pcph)	1996 PEAK HOUR TRAFFIC VOLUMES	1996 LEVEL OF SERVICE	2018 LEVEL OF SERVICE
State Road 502	2 EB/3WB	3,100 EB/4,650 WB	1,805	B	C
State Road 4	2	2,200	1,570	E	F
East Jemez Road	2	1,550	1,000	E	F

Notes: pcph = passenger cars per hour, EB = eastbound, WB = westbound

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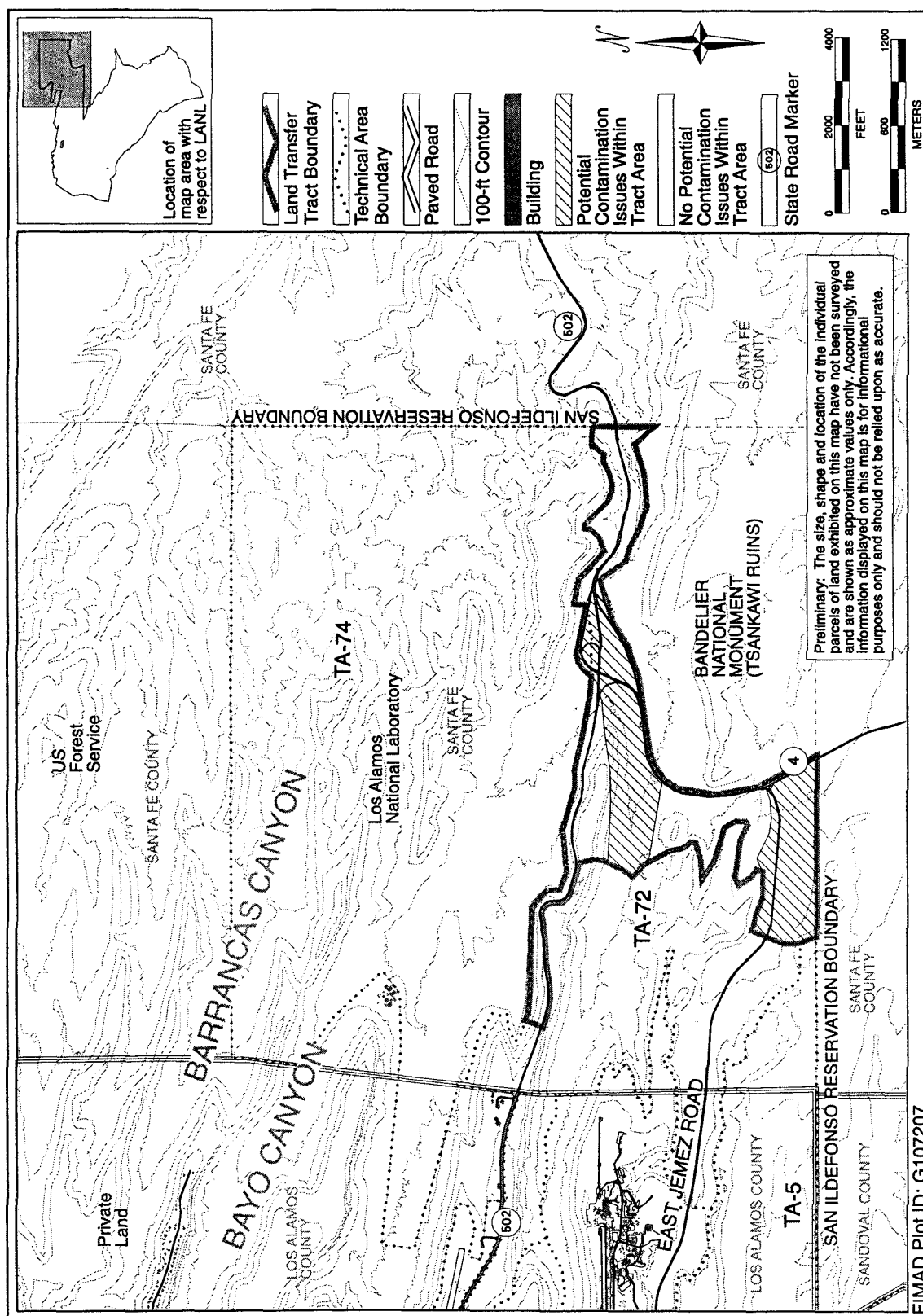


Figure 12.1.1.1-1. White Rock Y Tract Potential Contamination Issue Areas.

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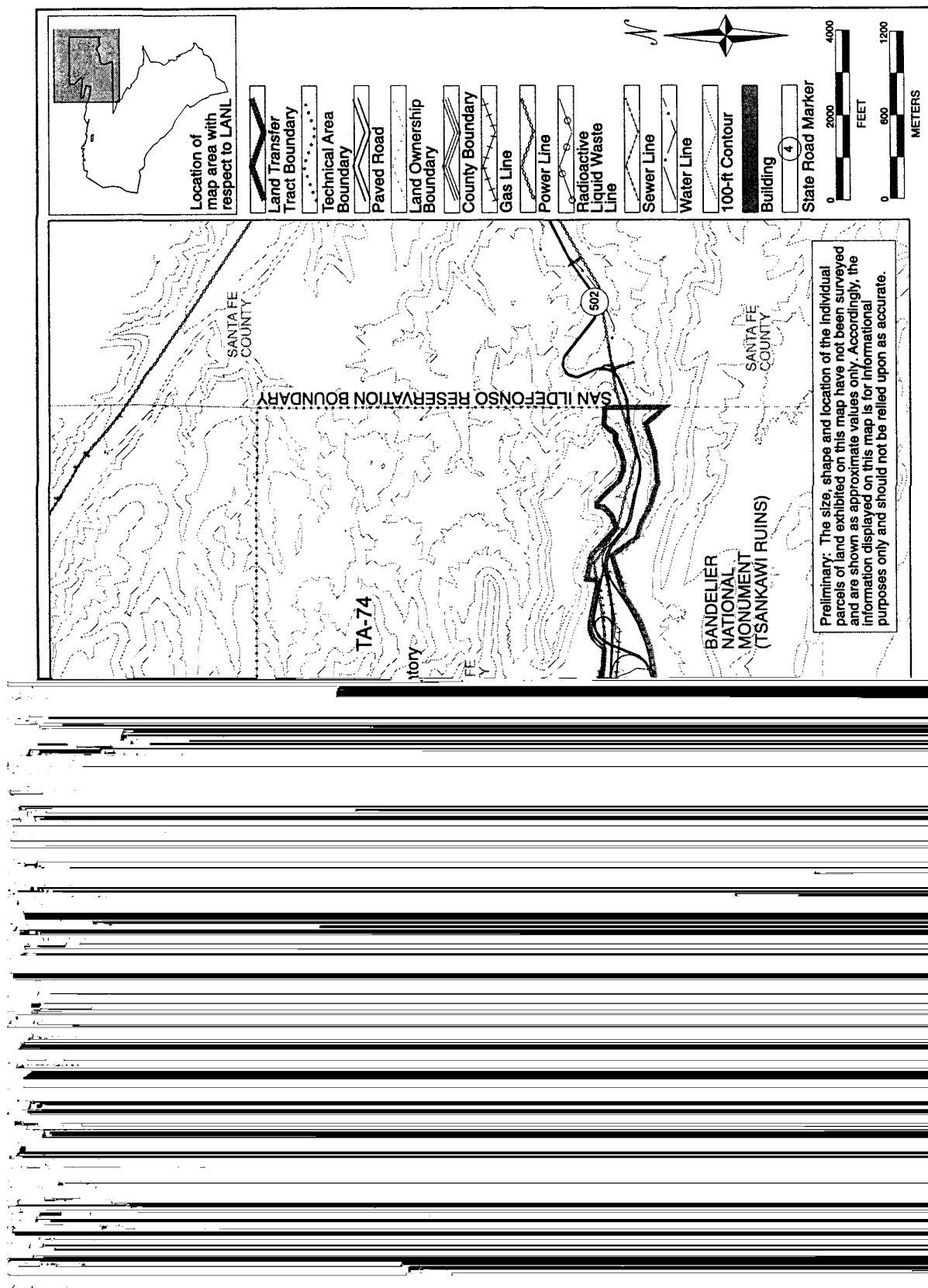


Figure 12.1.3-1. White Rock Y Tract Utilities and Infrastructure.

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Noise levels decrease with distance from the highways. Immediately adjacent to the highways, noise levels are likely to be in the range of 60 to 70 decibels, A-weighted (dBA) for most traffic conditions, increasing to 90 dBA when large vehicles such as tractor trailers pass.

12.1.5 *Visual Resources*

The White Rock Y Tract includes fairly steep side slopes of a mesa with some vegetation. Road cuts for State Road 502 are quite dominant in the landscape. There are good views looking from the roads of the surrounding landscape. The tract also includes a high, narrow, rocky mesa that is fairly prominent in the landscape. Views from the mesa of the surrounding landscape are quite spectacular. The White Rock Y Tract is located directly across State Road 4 from the Tsankawi unit of BNM and is well within the viewshed of Tsankawi mesa. Visitors are attracted to the Tsankawi unit because of its solitude, peace and tranquillity, and the opportunity to explore the archeological resources in such a setting. The view from Tsankawi mesa is breathtaking and encompasses most of the area proposed for transfer.

For the purposes of the visual resource analysis, this tract was divided into two rating units based on land characteristics. Rating Unit 1 includes the areas directly adjacent to the roads. Rating Unit 2 includes the mesa area west of the intersection of State Road 502 and State Road 4.

Three components were analyzed for Rating Unit 1. Scenic quality was determined to be “B” due the common scenic character of the landform combined with the manmade modifications. The distance zone was designated as “foreground/middleground” due to the proximity of the unit to State Road 502 and State Road 4, major viewing points. The sensitivity level was considered to be “high” due to high visibility from nearby viewpoints.

The combination of these components using the Inventory Class Matrix results in a Scenic Class of II for Rating Unit 1.

Three components were analyzed for Rating Unit 2. Scenic quality was determined to be “A” primarily due to interesting landforms within and adjacent to the rating unit. The distance zone for the rating unit was determined to be “foreground/middleground” because of the proximity to viewpoints along State Road 502 and State Road 4. The sensitivity level was determined to be “high” due to the high visibility of the site. The combination of these components using the Inventory Class Matrix results in a Scenic Class of II for Rating Unit 2. Both units within the tract fall into Scenic Class II, indicating visual resources of high public value.

12.1.6 *Socioeconomics*

The most meaningful economic region of influence (ROI) for all of the tracts is the regional setting described in Chapter 3 of this CT EIS. Labor and housing markets extend well beyond any of the tract boundaries affected by the proposed land transfer.

The White Rock Y Tract is used currently only for transportation to other parts of LANL and for utilities, such as water wells. There is no employment associated with this tract.

12.1.7 *Ecological Resources*

The predominate vegetation in the White Rock Y Tract is pinyon-juniper woodland interspersed with shrubs, grasslands, and wildflowers. Los Alamos Canyon and its perennial stream and floodplain cross the White Rock Y Tract. The ephemeral Sandia Canyon stream and portions of its floodplain also are present in this tract. The tract includes a portion of a 100-year floodplain, with the water flow primarily routed into conduits and transported under State Road 4 and State Road 502. Wetlands are present in association with the streambed and associated

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floodplains. See Appendix D for further description of the wetlands and floodplains. Flora and fauna are expected to be characteristic of the region. The tract contains suitable habitat for the bald eagle, Mexican spotted owl, and American peregrine falcon. Areas of environmental interest (AEIs) for the Mexican spotted owl (Los Alamos Canyon AEI) and American peregrine falcon (Pueblo Canyon and Los Alamos Canyon AEIs) are defined within this tract. Noise in the vicinity of the tract results from motor vehicles using State Road 4 and State Road 502. Lighting is primarily from motor vehicles.

12.1.8 Cultural Resources

White Rock Y was used from the Paleo-Indian Period through the Nuclear Energy period, with most intensive use dating to the Coalition and Classic periods. The tract was part of the Ramon Vigil Spanish land grant. The ROI for this tract includes the land tract itself, plus nearby cultural resources located off the tract. For this tract, these nearby resources are located on LANL, BNM, and San Ildefonso Pueblo lands.

One hundred percent of the White Rock Y Tract has been inventoried for historic and prehistoric cultural resources. Survey results indicate that there are 41 cultural sites within the tract, 36 of which are prehistoric and 5 of which are historic. Of the prehistoric sites, 19 are considered to be eligible and 7 as potentially eligible for listing on the National Register of Historic Places (NRHP); 10 are considered not eligible. Of the five historic sites, four are potentially eligible, and the other is not eligible. One of the potentially eligible sites is a building dating to the Cold War era. There is a high potential for unidentified resources, including subsurface archaeological deposits and unrecorded burials.

Formal consultations to identify traditional cultural property (TCP) resources have not been conducted. There is a high

probability that TCPs will be identified during further consultations with Native American and Hispanic groups regarding the traditional uses of this tract. The Pueblo of San Ildefonso has indicated, in general terms, that TCPs are present on this tract. TCPs would not be anticipated in developed parts of the tract.

Additional information on the cultural resources of the White Rock Y Tract is presented in Appendix E of this CT EIS.

12.1.9 Geology and Soils

Soil members include the Penistaja sandy loam, the Servilleta loam, and the Prieta silt loam. No major surface faulting is evident on this tract. Existing structures are vulnerable to greater than magnitude 7 seismic events (as measured on the Richter scale) and wildfire episodes.

12.1.10 Water Resources

Figure 12.1.1-1 shows the location of the White Rock Y Tract. The tract is transected by Los Alamos and Sandia Canyons. Both canyons are natural ephemeral drainages in the vicinity of the tract; however, Los Alamos Canyon receives treated sanitary effluent from the County's Bayo Wastewater Treatment Plant at its confluence with Pueblo Canyon. This effluent-supported reach extends to the tract's eastern boundary. There are no known springs within the tract. The U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) and LANL have identified wetlands on this tract. Wetlands assessments are included in Appendix D.

There are two stream gages within the White Rock Y Tract operated by LANL. A summary of the flow data for two recent years is presented in Table 12.1.10-1. These stations also are surface water monitoring stations. There is one regional aquifer supply well and two new regional aquifer test wells

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Table 12.1.10-1. Los Alamos and Sandia Canyons Gaging Summary

WATER YEAR	LOCATION	# DAYS/YEAR OF FLOW	TOTAL VOLUME (acre-feet)	MAXIMUM FLOW RATE (gpm)
1997	Los Alamos Canyon	91	173	76,745
1996	Los Alamos Canyon	32	15	15,259
1997	Sandia Canyon	3	0.9	4,448
1996	Sandia Canyon	1	1	1,795

Note: gpm = gallons per minute

Sources: LANL 1996b, LANL 1998e

within the tract. The two test wells have been drilled but not completed yet. There is one National Pollutant Discharge Elimination System (NPDES)-permitted outfall associated with the supply well.

The White Rock Y Tract lies within the 100-year floodplain as modeled by LANL for Los Alamos and DP Canyons. Assessment of these floodplains is included in Appendix D.

12.1.11 Air Resources

The White Rock Y Tract straddles State Road 502 along its northern boundary, and State Road 4 forms its eastern boundary. The tract is part of New Mexico Region 3, an attainment area that meets National Ambient Air Quality Standards (NAAQS) for criteria pollutants. Small quantities of hydrocarbon-generated ozone and carbon monoxide from vehicular highway traffic are the only emissions of criteria pollutants from within the tract.

There are no emissions of hazardous or other chemical air pollutants at this tract, which means that any exposures are the result of air carried from other locations. Analyses performed for the LANL SWEIS estimate

that concentrations of chemical air pollutants will not exceed health-based standards for any point beyond the LANL boundary, and there are no adverse health effects expected. (DOE 1999c, Chapter 5). From this information, the same conclusion can be applied to the White Rock Y Tract.

There also are no emissions of particulate radioactive air pollutants from within the boundaries of the White Rock Y Tract. However, cesium-137 in soils emits direct radiation that is detected by LANL's monitoring network. Estimates for this location, however, indicate doses of less than 1 millirem per year, or less than 10 percent of the EPA standard.

12.1.11.1 Global Climate Change

There are no structures or other stationary sources emitting greenhouse gases located on this tract.

12.1.12 Human Health

12.1.12.1 The Radiological Environment for the White Rock Y Tract

No one resides or works on this land, and visitors remain there only for a short time. It is expected that radiation doses would be much less than that to the LANL offsite maximally exposed individual (MEI) due to the much greater distance from the primary source of radioactive air emissions at LANL (from the Los Alamos Neutron Science Center [LANSCE]). Similarly, background radiation doses would be the same as for the Los Alamos townsite. While there are no PRSs on this tract, there are known sources of radioactive contamination on and upstream of the tract (from cesium-137 contaminated sediments).

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12.1.12.2 The Nonradiological Environment for the White Rock Y Tract

Exposures to nonradiological contaminants via an airborne pathway in the LANL vicinity have already been shown not to be significant for the affected environment (DOE 1999c). Sources of contamination other than PRSs on this tract may include nonradiological constituents; the site is not completely characterized.

It is postulated that all three types of natural disasters examined in the LANL SWEIS could occur on this land (flood, seismic events, and wildfire). This site does not have hazardous materials present. No additional nonradiological exposures would be expected from natural event accidents.

12.1.12.3 Facility Accidents

Chemical Accidents

The LANL SWEIS posits six chemical accidents, as discussed in Chapter 4, Section 4.1.12 of this CT EIS. For all postulated accidents, chemical concentrations in the air plume released by the potential accidents would be below both Emergency Response Planning Guideline (ERPG)-3 (life-threatening) and ERPG-2 (serious health effects) by the time any air plume reached the White Rock Y Tract, even under adverse weather dispersion conditions. Accordingly, chemical accidents have no estimated public consequences at the tract.

Radiological Accidents

There are 13 credible radiological accident scenarios postulated in the SWEIS, as discussed in Chapter 4, Section 4.1.12 of this CT EIS. Using data from the LANL SWEIS, doses to the MEI at the White Rock Y Tract have been estimated for each of these, as shown in Table 12.1.12.3-1.

Because there are no residents and no public workers at the tract, estimated tract

collective dose and estimated excess latent cancer fatality (LCF) are both zero.

Natural Event Accidents

There are five natural event accident scenarios postulated in the LANL SWEIS: four earthquakes and one wildfire. The most severe postulated earthquake (accident SITE-03B) has an estimated frequency of 3×10^{-5} per year, or once every 330,000 years. The earthquake scenario would release chemicals from a number of facilities, including formaldehyde from the Health Research Laboratory (Building 43-01) and chlorine from the chlorinating station within the Los Alamos townsite (Building 00-1109). As discussed above, earthquakes would have no estimated chemical consequences at the White Rock Y Tract. The most severe postulated earthquake, however, would release significant quantities of radioactive materials from several buildings, especially from the Chemistry and Metallurgy Research (CMR) Building (Building 03-29). Radiological consequences are estimated to result in a maximum dose of approximately 8 Roentgen equivalent man (rem) at the tract.

The postulated site wildfire would burn about 8,000 acres (3,240 hectares) within LANL boundaries, or about 30 percent of LANL, including most of Mortandad Canyon and parts of Los Alamos and DP Canyons east of TA 21. Chemical releases would be less severe than in the earthquake scenarios. The largest quantities of radioactive materials are released from the transuranic (TRU) waste storage domes at Area G. The maximum dose at White Rock Y Tract is estimated to be about 0.2 rem. Such a wildfire has an estimated frequency of 0.1 per year, or once every 10 years.

Because there are no residents and no public workers at the tract, the estimated tract collective dose and estimated excess LCF are both zero for all five natural event accident scenarios.

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Table 12.1.12.3-1. MEI Doses for the White Rock Y Tract Resulting from Hypothetical Accidents at LANL Facilities

ACCIDENT SCENARIO	ACCIDENT LOCATION	FACILITY	FREQUENCY PER YEAR	MEI DOSE (mrem)	ACCIDENT DESCRIPTION
RAD-01	54-38	RANT	1.6×10^{-3}	98	Fire in the outdoor container storage area
RAD-02	03-29	CMR	1.5×10^{-6}	5,400	Natural gas pipeline failure
RAD-03	18-116	Kiva #3	4.3×10^{-6}	97	Power excursion at the Godiva-IV fast-burst reactor
RAD-05	21-209	TSTA	9.1×10^{-6}	3	Aircraft crash
RAD-07	50-69	WCRR	3.0×10^{-4}	72	Fire in the outdoor container storage area
RAD-08	54-230	TWISP	4.3×10^{-6}	330	Aircraft crash
RAD-09A	54-226	TWISP	4.9×10^{-1}	5	Puncture or drop of average-content drum of transuranic waste
RAD-09B	54-226	TWISP	4.9×10^{-3}	230	Puncture or drop of high-content drum of transuranic waste
RAD-12	16-411	--	1.5×10^{-6}	2,600	Seismic-initiated explosion of a plutonium-containing assembly
RAD-13	18-116	Kiva #3	1.6×10^{-5}	140	Plutonium release from irradiation experiment at the Skua reactor
RAD-15A	03-29	CMR	3.6×10^{-5}	22	Fire in single laboratory
RAD-15B	03-29	CMR	3.2×10^{-5}	420	Fire in entire building wing
RAD-16	03-29	CMR	3.5×10^{-6}	3	Aircraft crash

Notes: mrem = millirem; RANT = Radioactive Assay and Nondestructive Test; TSTA = Tritium Systems Test Assembly; WCRR = Waste Characterization, Reduction, and Repackaging; TWISP = Transuranic Waste Inspectable Storage Project

12.1.13 Environmental Justice

Any disproportionately high and adverse human health or environmental effects on minority or low-income populations that could result from the actions undertaken by the DOE are assessed for the 50-mile

(80-kilometer) area surrounding LANL, as described in Chapter 3, Section 3.2.1.14.

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12.2 No Action Alternative

12.2.1 Land Use

There would be no anticipated changes in land use at the White Rock Y under the No Action Alternative. TA 72 operations to the west of the tract would continue consistent with future LANL projections. Similarly, the water wells and transportation routes located at the tract would remain in support of LANL operations.

12.2.1.1 Environmental Restoration

Characterization and cleanup of this tract would take place as described in the DOE's *Accelerating Cleanup: Paths to Closure* (DOE 1998c) or similar plans. The plan focuses on completing work at as many contaminated sites as possible by the end of fiscal year 2006, although some LANL sites could take longer. The plan includes input from all major field sites, including LANL.

The DOE has developed preliminary information based on current knowledge of contamination at the White Rock Y Tract, as briefly discussed in the Affected Environment portion of this chapter, Section 12.1.1.1. Information includes estimates of sampling and cleanup costs, decommissioning costs, types and volumes of wastes that would be generated, and length of time required to effect the cleanup. An overview of this preliminary information is set forth in Appendix B of this CT EIS. All information has been extracted from the Environmental Restoration Report to Support Land Conveyance and Transfer Under Public Law 105-119, Revision 1 (DOE 1999b).

This information indicates that no decommissioning of the six structures would be necessary. Cleanup of canyon sediments may be required, resulting in about 3,770 cubic yards (2,880 cubic meters) of waste from these minimal restoration activities. Cost estimates for remedial action at this parcel range from about \$1,880,000 to

\$10,424,000. These estimates are based on the information currently available for each PRS or structure, and are subject to change if significantly different information is discovered during the course of investigation or remediation. It should be noted that all PRSs, including those at which no remediation is ultimately required, must be characterized, and the results must be reported to the administrative authority. As a consequence, there are almost always costs and wastes associated with PRSs that do not require actual "cleanup." It is possible, however, that the administrative authority could require even more restoration, resulting in greater waste volumes, a longer cleanup duration, and higher costs. It also should be noted that environmental restoration actions and costs represent only a portion of the actions and total costs that may be required for conveyance and transfer of this parcel. These additional costs may be significant.

12.2.2 Transportation

The No Action Alternative would result in no significant changes in traffic volume on State Road 502, State Road 4, or East Jemez Road near the tract. It is expected that the future operational performance of these roadways would remain similar to that of the existing performance, assuming that the future annual growth rate is 1.5 percent as predicted the U.S. Census Bureau.

12.2.3 Infrastructure

The No Action Alternative would result in no changes in the infrastructure or utilities of the White Rock Y Tract. The tract would continue to be used as a corridor for transportation and utilities. No appreciable increase in utilities or infrastructure usage is expected; thus, the impacts to utilities and infrastructure would not change.

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12.2.4 Noise

In the No Action Alternative, ambient noise levels would remain much as they are currently, typically from 60 to 70 dBA, but up to 90 dBA. Noises would continue to vary with time of day (with traffic volume) and with distance from the highways.

12.2.5 Visual Resources

Under the No Action Alternative, it is expected that the visual character of the site would remain much as it exists today. Visual characteristics of the landforms and manmade modifications would not be expected to change in any substantial way.

12.2.6 Socioeconomics

Under the No Action Alternative, there would be no anticipated changes in land use or change in employment on the tract.

12.2.7 Ecological Resources

Under the No Action Alternative, there would be no changes in land use at White Rock Y Tract, as described in Section 12.1.1. Therefore, no impact to ecological resources is projected under the CT EIS No Action Alternative.

12.2.8 Cultural Resources

Under the No Action Alternative, the White Rock Y Tract would remain the responsibility of the DOE, and the treatment of the cultural resources present would continue to be subject to Federal laws, regulations, guidelines, executive orders, and Pueblo Accords. Other positive impacts of the No Action Alternative would be the passive preservation of resources due to lack of development. Ongoing negative impacts from natural processes (such as erosion, fire, seismic events, and aging of buildings) on the physical integrity of cultural resources would continue. Also, the potential for impacts from continued recreational activities (such as

hiking and climbing), access by the public, and the lack of security would continue. These impacts include unintentional destruction or damage of resources, vandalism, and unauthorized collection of materials and artifacts. These impacts apply both to resources within the tract and to those located nearby but outside of the tract boundary on LANL, BNM, and San Ildefonso Pueblo lands.

12.2.9 Geology and Soils

Consequences of the No Action Alternative would be limited to those of existing uses. The tract is already developed; no additional utilities, roadwork, or buildings would be required. No soil disturbance or change in availability of resources would be anticipated from implementing the No Action Alternative.

12.2.10 Water Resources

Continuation of the current use of this tract by the DOE would be anticipated under this alternative. Consequences to water resources under the No Action Alternative would be no different than those already existing in the affected environment.

12.2.11 Air Resources

In the No Action Alternative, air quality would remain high, as it is today. For criteria pollutants, ambient air concentrations would remain within air quality standards. Similarly, concentrations of hazardous and other chemical air pollutants would remain within health-based standards. Analysis of doses received from radioactive air emissions result in estimated doses of 1.0 to 1.8 millirem per year, less than one-fifth of the EPA standard.

12.2.11.1 Global Climate Change

There would be no structures or other stationary sources emitting greenhouse gases located on this tract.

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12.2.12 Human Health

There would be no identifiable human health consequences of the No Action Alternative for the White Rock Y Tract. No changes in cancer risk would be expected for this alternative.

12.2.12.1 Chemical Accidents

Accident assessment would be the same as described in the Affected Environment section of this chapter. For all postulated accidents, chemical concentrations in the air plume released by potential chemical accidents would be below both ERPG-3 (life-threatening) and ERPG-2 (serious health effects) by the time any air plume reached the White Rock Y Tract, even under adverse weather dispersion conditions. Accordingly, chemical accidents would have no estimated public consequences at the tract.

12.2.12.2 Radiological Accidents

Accident assessment would be the same as described in the Affected Environment section of this chapter. MEI doses would be greater than 500 millirem for 2 of 13 scenarios. The estimated tract collective dose and estimated excess LCF would both be zero.

12.2.12.3 Natural Event Accidents

Accident assessment would be the same as described in the Affected Environment section of this chapter. Neither the wildfire nor any of the earthquakes would have chemical consequences, even under adverse weather dispersion conditions. The MEI dose resulting from the postulated wildfire would be about 0.2 rem; the maximum dose from the most severe earthquake would be approximately 8 rem. Because there would be no residents and no public workers at the tract, estimated tract collective dose and estimated excess LCF would both be zero for all five natural event accident scenarios.

12.2.13 Environmental Justice

For environmental justice impacts to occur, there must be high and adverse human health or environmental impacts that disproportionately affect minority or low-income populations. The human health analyses estimate that air emissions and hazardous chemical and radiological releases from normal LANL operations, which would continue under the No Action Alternative, would be expected to be within regulatory limits and that no excess LCFs would likely result. The human health analyses also indicate that radiological releases from accidents at LANL would not result in disproportionate adverse human health or environmental impacts. Therefore, such accidents would not have disproportionately high and adverse impacts on minority or low-income populations.

The analyses also indicate that socioeconomic changes resulting from implementing the No Action Alternative would not lead to environmental justice impacts. Employment and expenditures would remain unchanged from the baseline.

12.3 Proposed Action Alternative

There are no DOE facilities or activities on this tract that would have to be relocated or otherwise affected by the proposed disposition of this tract except for the relocation of some environmental media monitoring stations onto LANL land. These direct consequences would be minor and bounded by the indirect consequences. Therefore, direct consequences of the transfer of ownership of the tract will not be discussed for each resource area other than those associated with potential loss of Federal protection of cultural and ecological resources (see Sections 12.3.7 and 12.3.8 respectively).

Indirect consequences would be anticipated from the subsequent uses of the tract contemplated by the receiving party or parties. The contemplated uses and the

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associated consequences are discussed in the following sections. Where the impacts from the two contemplated uses differ, they are broken out and discussed separately.

12.3.1 Land Use

12.3.1.1 Description of Contemplated Uses

Land uses proposed for the White Rock Y Tract include (1) cultural preservation, and (2) natural areas, transportation, and utilities. The following paragraphs provide an overview of these scenarios.

Cultural Preservation Land Use Scenario

Land use under this scenario would be dominated by cultural practices and activities necessary to meet continuing stewardship needs. In order to ensure preservation of the tract, access to the site by members of the general public would be eliminated. Although the tract would not be developed, portions of the tract would be used for utilities, utility corridors and roadways, as they are currently, with minimum future additions to infrastructure.

Natural Areas, Transportation, and Utilities Land Use Scenario

Under this scenario, land use would be based on maintaining the tract as a natural area. The general public would have access to the site for recreational purposes. Although the tract would not be developed, portions of the tract would be used for additions or improvements to utilities (such as wells or power lines), or utility corridors, including construction of roads for improved access. This use would be much as it is currently, with some additional infrastructure facilities.

Table 12.3.1.1-1 and Table 12.3.1.1-2 summarize the attributes of each of the potential scenarios.

Table 12.3.1.1-1. Attributes of Future Land Use for the White Rock Y Tract Under the Cultural Preservation Land Use Scenario

CULTURAL PRESERVATION LAND USE
<ul style="list-style-type: none">• Entire tract is held in cultural preservation.• Land use would be dominated by cultural practices and activities necessary to meet continuing stewardship needs.• Future use of the tract for recreation by members of the general public would be precluded.

Table 12.3.1.1-2. Attributes of Future Land Use for the White Rock Y Tract Under the Natural Areas, Transportation, and Utilities Land Use Scenario

NATURAL AREAS, TRANSPORTATION, AND UTILITIES LAND USE
<ul style="list-style-type: none">• Entire tract would be held as an undeveloped natural area and “passively” managed.• Portions of the tract could be used for additions or improvements to utilities (wells, power lines) or utility corridors, including construction of roads for improved access.• The general public would have access to the tract for recreational purposes.

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12.3.1.2 Environmental Consequences of the Contemplated Uses

Cultural Preservation Land Use Scenario

There would be some anticipated change in land use associated with the cultural preservation land use scenario proposed for the White Rock Y Tract. Access to the tract for public recreation and other uses would be denied, and these recreational opportunities would be lost. Continued use of the existing utilities and transportation facilities at the site would remain. The decrease in activity at and in proximity to the tract from the change in access associated with this scenario would likely prove beneficial to adjacent land use, including BNM and TA 72 operations.

Natural Areas, Transportation, and Utilities Land Use Scenario

There would be some anticipated change to land use associated with the proposed natural areas, transportation, and utilities scenario. Some degree of land disturbance associated with the additions or improvements to utilities, utility corridors, and access roads would be expected. Impacts associated with these activities would be temporary in nature and would not be anticipated to result in any major change in land use.

Activity at and in proximity to the tract would be anticipated to increase under this scenario. Unrestricted access to the tract could increase pedestrian traffic in areas adjacent to wetlands, archaeological and historical sites, and sensitive habitat. The potential for these resources to be effected is discussed in detail in the ecological and cultural resource sections for this tract. Although this would not be anticipated to adversely impact lands within the tract, it could be potentially nonbeneficial to adjacent land uses. Because of the likely increase in activity adjacent to BNM, activities required in support of resource management at BNM

could intensify. Management of site security at TA 72 could be similarly affected.

12.3.1.3 Environmental Restoration

No additional environmental restoration actions would be required under the Proposed Action Alternative because restoration activities must occur before the tract would be considered suitable for conveyance or transfer.

12.3.2 Transportation

12.3.2.1 Environmental Consequences of the Contemplated Uses

Both the cultural preservation land use scenario and the natural areas, transportation, and utilities land use scenario would result in transportation system impacts similar to the No Action Alternative. These land use scenarios as currently defined would, in large part, result in the continuation of existing land uses. The possible construction of new roads to improve access to utilities on the tract would have no impact on traffic circulation in the area. Therefore, it is expected that the future operational performance of State Road 502, State Road 4, and East Jemez Road would remain similar to that of the existing performance, assuming that the future annual growth rate is 1.5 percent as predicted the U.S. Census Bureau.

12.3.3 Infrastructure

12.3.3.1 Environmental Consequences of the Contemplated Uses

Cultural Preservation Land Use Scenario

Under this land use scenario, no changes would be anticipated that would affect the utilities and infrastructure. Easements for continued use of utilities and the transportation corridor would likely continue. Thus, this land use would have no direct or

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indirect consequences to utilities and infrastructure.

Natural Areas, Transportation, and Utilities Land Use Scenario

Under this land use scenario, most of the tract would be maintained as a natural area. Some of the land, however, would be used for additions or improvements to utilities such as well construction or utility corridors. Improvements to the utilities are considered as positive impacts to the area's utilities and infrastructure as they would improve the existing capacity.

However, soil would be disturbed by activities related to improvements in the utilities. Refer to Section 12.3.9 for more information on soil disturbance related to this land use scenario.

12.3.4 Noise

12.3.4.1 Environmental Consequences of the Contemplated Uses

Continued use of the White Rock Y Tract as a transportation corridor is contemplated under both land use scenarios for this tract. Assuming that the two state highways remain in use, ambient noise levels would remain as they are projected for the No Action Alternative, typically ranging to 70 dBA, with spikes to 90 dBA.

12.3.5 Visual Resources

12.3.5.1 Environmental Consequences of the Contemplated Uses

The Scenic Class II designation for this tract is associated with a relatively high public value for the visual resource. The visual resource objective for this scenic class is to retain the existing character of the landscape as much as possible. The contemplated uses for this tract include natural areas, transportation and utilities, or cultural preservation. Either use would retain

existing visual character and would not impact visual resources.

12.3.6 Socioeconomics

12.3.6.1 Environmental Consequences of the Contemplated Uses

The contemplated uses of this tract would have little or no impact on employment, income, population, or housing. There may be some modest economic activity associated with improvements to utilities and infrastructure.

12.3.7 Ecological Resources

Direct impacts of the conveyance or transfer itself would be limited to the changes in responsibility for resource protection. Environmental review and protection processes for future activities would not be as rigorous as those which govern DOE activities.

The watershed management approach to natural resource management requires the integration of natural resource management plans across several land management agencies. The current lack of a natural resources management plan by either the County of Los Alamos or the Pueblo of San Ildefonso would impede the development of an integrated, multiagency approach to short- and long-term natural resource management strategies for the White Rock Y Tract.

The LANL Threatened and Endangered Species Habitat Management Plan would no longer be in effect for this tract—thereby potentially reducing the protection afforded threatened and endangered species and their potential habitat in the White Rock Y Tract. This plan has designated approximately 19 acres (8 hectares) within this tract as Los Alamos Canyon area of environmental interest (AEI) core habitat for the Mexican spotted owl, and for the American peregrine falcon approximately 53 acres (21 hectares) (Pueblo Canyon AEI) and 237 acres

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(96 hectares) (Los Alamos Canyon AEI) are defined as AEI core habitat along with 111 acres (45 hectares) of Pueblo Canyon AEI buffer habitat (PC 1999d).

12.3.7.1 Environmental Consequences of the Contemplated Uses

Cultural Preservation Land Use Scenario

Under the cultural preservation scenario, the potential impacts to natural resources would be similar to the undeveloped but publicly accessible alternative. However, wildlife disturbance, both visual and auditory, from recreational use would be diminished. Consequently, habitat for most species would be augmented and improved.

Natural Areas, Transportation, and Utilities Land Use Scenario

The White Rock Y Tract has about 540 acres (219 hectares) of pinyon-juniper woodland with open areas occupied by shrubs, grasslands, and wildflowers. Under this land use scenario, the tract would continue to be passively managed as a natural area. While the site is not proposed for specific development under these alternatives, portions of the tract would be used for additions or improvement to utilities or utility corridors, including construction or roads for improved access. The general public potentially would have increased access for recreational purposes. Increased recreation access, especially if it includes motorized recreational vehicles, may cause animals (in some species) to alter their activity and feeding patterns, potentially resulting in increased stress, decreased reproduction, or the temporary or permanent abandonment of the affected area. Motorized recreational vehicles could result in further habitat degradation due to noise, an increase in the number of trails, and increased erosion. Foraging habitat for the American peregrine falcon and bald eagle could be affected. The White Rock Y Tract comprises approximately 2 percent of American peregrine falcon and

bald eagle general habitat available at LANL (LANL 1998b). Development of utility improvements and minor roadway construction would have associated habitat loss but generally would be expected to be minor.

12.3.8 Cultural Resources

Direct impacts of the conveyance or transfer itself would result from the transfer of known and unidentified cultural resources out of the responsibility and protection of the DOE.

First, under the Criteria of Adverse Effect (36 Code of Federal Regulations [CFR] 800.5(a)(1)), the transfer, lease, or sale of NRHP-eligible cultural resources out of Federal control is an adverse effect. Eligible cultural resources are present in the White Rock Y Tract and thus could be directly impacted by the Federal action.

Second, the conveyance and transfer of this tract could potentially impact the cultural resources by removing them from future consideration under the *National Historic Preservation Act*.

Third, the disposition of this tract may affect the protection and accessibility to Native American sacred sites and sites needed for the practice of any traditional religion by removing these resources from consideration under the *Religious Freedom Restoration Act*, *American Indian Religious Freedom Act*, and Executive Order 13007, "Indian Sacred Sites." Finally the disposition of this tract would affect the treatment and disposition of any human remains, funerary objects, sacred objects, and objects of cultural patrimony that may be discovered on the tract. This impact would result from removing them these items consideration under the *Native American Graves Protection and Repatriation Act* or from changing the way this act is applied to these remains and objects. Indirect consequences are discussed in the following sections.

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12.3.8.1 Environmental Consequences of the Contemplated Uses

Indirect impacts would be anticipated from the land uses contemplated by the receiving parties for the White Rock Y Tract. The two land uses identified for the White Rock Y Tract include (1) cultural preservation and (2) natural areas, transportation, and utilities. This analysis reflects the broad, planning-level impacts anticipated from each contemplated use.

Cultural Preservation Land Use Scenario

Under the cultural preservation scenario, the White Rock Y Tract would be used for cultural stewardship needs by the receiving party. Access to these lands by the general public would be restricted to protect culturally important resources. It is anticipated that this scenario would involve little or no construction or development; but, cultural preservation uses and users would be defined by the receiving party.

Dedicating the tract to cultural preservation would be anticipated to have a beneficial impact on the cultural resources present. The restriction of access by the general public would be anticipated to help protect the resources from vandalism, unauthorized collection of materials and artifacts, and disturbance of traditional practices and ceremonies. Another beneficial impact would be the passive preservation of resources and continued access to TCPs afforded to traditional practitioners of the receiving party.

Ongoing negative impacts from natural processes (such as erosion) on the physical integrity of cultural resources would continue. There also may be potential adverse impacts to some current traditional users if general access is precluded or restricted.

Natural Areas, Transportation, and Utilities Land Use Scenario

Under the natural areas, utilities, and transportation scenario, the tract would be

held as an undeveloped, publicly accessible natural area. The maintenance of natural areas would allow the passive preservation of cultural resources on the tract by restricting more destructive types of land use.

Portions of the tract also would be used for additions or improvements to utilities and road networks. It is anticipated that there may be construction and other ground disturbing activities required for maintaining utilities and establishing new roads. These activities could result in the physical destruction, damage, or alteration of the cultural resources present. Resources avoided by construction may become isolated or have their setting disturbed by the introduction of elements out of character with the resource, such as visual and audible intrusions. These activities may cause changes to the presence or integrity of, or access to, natural resources utilized by traditional communities for subsistence, religious, or other cultural activities.

The sanctioning of recreational uses and the construction of roads would increase access to cultural resources. Increased access could cause unintentional destruction and damage to resources, vandalism, unauthorized collection of materials and artifacts, and disturbance of traditional practices and ceremonies.

12.3.9 Geology and Soils

12.3.9.1 Environmental Consequences of the Contemplated Uses

Cultural Preservation Land Use Scenario

Under the cultural preservation land use scenario, there would be no disturbance for development. The tract would remain susceptible to wildfires, which could increase erosion potential.

Natural Areas, Transportation, and Utilities Land Use Scenario

With the proposed natural areas, transportation, and utilities scenario, some

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degree of land disturbance associated with the additions or improvements to utilities, utility corridors, and access roads would be expected. Existing and upgraded structures would be vulnerable to greater than magnitude 7 seismic events (as measured on the Richter scale) and wildfire episodes.

12.3.10 Water Resources

12.3.10.1 Environmental Consequences of the Contemplated Uses

Transfer of this tract under either contemplated land use would not directly or indirectly affect surface water or groundwater quality or quantity.

12.3.11 Air Resources

12.3.11.1 Environmental Consequences of the Contemplated Uses

Continued use of the White Rock Y Tract as a transportation corridor is included as part of both contemplated uses. As such, there would be no additional activities or additional emission of air pollutants. Air quality would remain the same (high) as in the No Action Alternative. Specifically, NAAQS would be met for criteria pollutants; concentrations of hazardous and other chemical air pollutants would remain below health-based standards; and doses from radioactive pollutants would remain less than 2 millirem per year or less than 20 percent of the EPA standard.

12.3.11.2 Global Climate Change

Contemplated use for the White Rock Y Tract would be largely unchanged following disposition. Accordingly, there would be few or no structures or other stationary sources emitting greenhouse gases located on this tract.

12.3.12 Human Health

12.3.12.1 Environmental Consequences of the Contemplated Uses

The consequences for human health for both contemplated uses would be the same as discussed for the No Action Alternative. The public could be in closer proximity to LANL but not closer than the offsite MEI with respect to the LANL operations producing the radioactive air emissions. Therefore, radiological doses would be the same as for the No Action Alternative.

12.3.12.2 Chemical Accidents

Accident assessment would be the same as discussed in the No Action Alternative. For all postulated chemical accidents, concentrations in the air plume released by potential accidents would be below both ERPG-3 (life-threatening) and ERPG-2 (serious health effects) by the time any air plume reached the White Rock Y Tract, even under adverse weather dispersion conditions. Accordingly, chemical accidents would have no estimated public consequences at the tract.

12.3.12.3 Radiological Accidents

Accident assessment would be the same as discussed in the No Action Alternative. MEI doses would be greater than 500 millirem for 2 of 13 scenarios postulated in the LANL SWEIS. The estimated tract collective dose and estimated excess LCF would both be zero.

12.3.12.4 Natural Event Accidents

Accident assessment would be the same as discussed in the No Action Alternative. Neither the wildfire nor any of the earthquakes would have chemical consequences, even under adverse weather dispersion conditions. The MEI dose resulting from the postulated wildfire would be approximately 0.2 rem; the maximum dose from the most severe earthquake would be

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about 8 rem. However, because there is no planned development of this tract, and hence, there would be no workers or residents, the estimated tract collective dose and estimated excess LCF would both be zero for all five natural event accident scenarios.

12.3.13 Environmental Justice

For environmental justice impacts to occur, there must be high and adverse human health or environmental impacts that disproportionately affect minority or low-income populations. The human health analyses for the contemplated land uses estimate that air emissions and hazardous chemical and radiological releases associated with LANL operations would be expected to be within regulatory limits and that no latent cancer fatalities would likely result. The human health analyses also indicate that radiological releases from LANL-generated accidents would not result in disproportionate adverse human health or environmental impacts. Therefore, such accidents would not have disproportionately high and adverse impacts on minority or low-income populations with regard to implementing the contemplated land uses on the tract.

The analyses also indicate that socioeconomic changes resulting from implementing the Proposed Action Alternative would not lead to environmental justice impacts.

The analysis of impacts to cultural resources indicates that TCPs could be present on the tract or in adjacent areas. If present, TCPs could be impacted by the conveyance or transfer or by subsequent land uses. Consultations to determine the presence of these resources have not been completed, and the degree to which these resources may be impacted has not been ascertained. Impacts to TCPs potentially may cause disproportionately high or adverse effects on minority or low-income communities, but these effects cannot be determined at this

point in the consultation process. Legal counsel for the Pueblo of San Ildefonso expressed the opinion that the conveyance and use of this tract would result in an environmental justice impact on the Pueblo's population.

12.3.14 Irreversible and Irretrievable Commitment of Resources

This section describes the major irreversible and irretrievable commitments of resources that can be identified at the level of analysis conducted for this CT EIS. A commitment of resources is irreversible when its primary or secondary impacts limit the future options for a resource. An irretrievable commitment refers to the use or consumption of a resource that is neither renewable nor recoverable for use by future generations.

The actual conveyance or transfer of the White Rock Y Tract would not immediately cause any irreversible or irretrievable commitments of resources. Because only minimal road and utility improvements would be made under the proposed land use scenarios, a minor irreversible commitment of ecological habitat and cultural resources could occur.

The natural areas, transportation, and utilities land use scenario would cause irretrievable commitments of minor quantities of resources during upgrade of the roads and utilities. These resources include energy expended in the form of electricity and the burning of fossil fuels.

12.3.15 Unavoidable Adverse Environmental Impacts

The actual conveyance or transfer of the White Rock Y Tract could result in the loss of certain Federal protections for cultural resources on the tract. Loss of these protections could be considered an unavoidable adverse impact to these resources because new development could result in physical destruction, damage, or alteration of

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cultural resources on the tract. The conveyance or transfer of the tract also could result in the loss of certain Federal protections for ecological resources and consideration of these resources in planning future activities on the tract. Subsequent upgrading of roads and utilities on the tract could cause adverse impacts to ecological habitat, including loss of a small amount of habitat.

12.3.16 Relationship Between Local Short-Term Use of the Environment and the Maintenance of Long-Term Productivity

Because there would be virtually no change in the use of this land tract under the proposed land uses, neither the actual conveyance or transfer nor the future use would cause any specific impacts on short-term uses of the environment. Similarly, there would be no noticeable impact to the long-term ecological productivity of the area.